AMENDMENTS TO THE CLAIMS

1. (**Currently amended**) A method for evaluating the morphogenic activity of a candidate morphogenic protein or analog thereof, comprising:

   (a) creating a local defect site in a mammal accessible to progenitor cells,

   (b) administering said candidate morphogenic protein or analog thereof systemically to said mammal at a site distal from the local defect site,

   (c) measuring the ability of said candidate morphogenic protein or analog thereof to induce new tissue formation at said defect site, and

   (d) comparing the ability of said candidate morphogenic protein or analog thereof with the ability of a control to perform the same function,

   wherein said local defect site is in renal, skeletal, lung, cardiac, liver, pancreas, uterine, ovarian, gastrointestinal, colon, dermal, ~~oral mucosa~~, osteochondral, chondral, or thyroid tissue.

2. (**Canceled**)

3. (**Currently amended**) A method for evaluating an optimal dosage of a candidate morphogenic protein or analog thereof for administering to a mammal, comprising:

   (a) creating a local defect site in a mammal accessible to progenitor cells,

   (b) administering said candidate morphogenic protein or analog thereof systemically to said mammal at a site distal from the local permissive defect site,

   (c) measuring the ability of candidate morphogenic protein or analog thereof to induce new tissue formation at said defect site, and

   (d) comparing the ability of said candidate morphogenic protein or analog thereof with the ability of a control to perform the same function,

   wherein said local defect site is in renal, skeletal, lung, cardiac, liver, pancreas, uterine, ovarian, gastrointestinal, colon, dermal, ~~oral mucosa,~~ osteochondral, chondral, or thyroid tissue.

4. (**Canceled**)

5. (**Withdrawn**) The method of claim 1 or 3, wherein said non-neuronal defect site occurs in skeletal, lung, cardiac, liver, pancreas, uterine, ovarian, gastrointestinal, colon, dermal, oral mucosa, osteochondral, chondral, or thyroid tissue.

6. (**Previously presented**) The method of claim 1 or 3, wherein said defect site occurs in renal tissue.

7. (**Previously presented**) The method of claim 1 or 3, wherein said defect site occurs in dental or periodontal tissue.

8. (**Previously presented**) The method of claim 1 or 3, wherein said mammal is aged.

9. (**Previously presented**) The method of claim 1 or 3, wherein said mammal has a reduced capacity to induce callus formation.

10. (**Previously presented**) The method of claim 1 or 3, wherein said mammal is afflicted with impaired blood flow to the skeletal extremities.

11. (**Currently amended**) The method of claim 1 or 3, wherein said mammal has a reduced capacity to induce an endogenous ~~morphogenetic~~ morphogenic signal.

12. (**Currently amended**) The method of claim 1 or 3, wherein said morphogenic protein or analog thereof is administered parenterally.

13. (**Currently amended**) The method of claim 12, wherein said morphogenic protein or analog thereof is administered intravenously.

14. (**Currently amended**) The method of claim 1 or 3, wherein said morphogenic protein or analog thereof is administered orally.

15. (**Currently amended**) The method of claim 1, wherein said morphogenic protein or analog thereof is administered to said mammal at a time when mesenchymal progenitor cells are accessible to said ~~defect locus~~ local defect site.

16. (**Currently amended**) The method of claim 1 or 3, wherein said morphogenic protein or analog thereof is administered at least six hours after the creation of said local defect site.

17. (**Currently amended**) The method of claim 1, wherein said morphogenic protein or analog thereof is administered at least 24 hours after the creation of said local defect site.

18. (**Currently amended**) The method of claim 1, wherein said morphogenic protein or analog thereof is administered at least 72 hours after the creation of said local defect site.

19. (**Currently amended**) The method of claim 1 or 3, wherein said morphogenic protein or analog thereof is administered to said mammal after the initiation of fibrosis at said ~~defect locus~~ local defect site.

20. (**Currently amended**) The method of claim 1 or 3, wherein said morphogenic protein or analog thereof is administered in aqueous solution.

21. (**Previously presented**) The method of claim 8, wherein said mammal is a steroidal drug user.

22. (**Previously presented**) The method of claim 8, wherein said mammal is aged, obese, hypertensive, or afflicted with osteopenia or diabetes.

23. (**Previously presented**) The method of claim 1 or 3, wherein said morphogenic protein is a morphogenically active amino acid sequence variant of a morphogen selected from: OP1, OP2, OP3, BMP2, BMP3, BMP4, BMP5, BMP6, BMP9, BMP-10, BMP-11, BMP-12, BMP-15, BMP-3b, DPP, Vg1, Vgr-1, 60A protein, GDF-1, GDF-3, GDF-5, GDF-6, GDF-7, GDF-8, GDF-9, GDF-10, or GDF-11.

24. (**Previously presented**) The method of claim 23, wherein said morphogen is selected from: OP1, OP2, BMP2, BMP4, BMP5, or BMP6.

25. (**Previously presented**) The method of claim 1 or 3, wherein said morphogenic protein is a morphogenically active amino acid sequence variant of a morphogen comprising an amino acid sequence having at least 70% homology within the C-terminal 106 amino acids, including the conserved seven cysteine domain, of human OP1.

26. (**Previously presented**) The method of claim 1 or 3, wherein said morphogenic protein is OP1.

27. **(Previously presented)** The method of claim 1 or 3, wherein said morphogenic protein is mature OP1 solubilized in a saline solution.

28. **(Previously presented)** The method of claim 1 or 3, wherein said morphogenic protein comprises an amino acid sequence defined by OPX (SEQ ID No. 3); Generic Sequence 6 (SEQ ID No. 4), Generic Sequence 7 (SEQ ID No. 5); Generic Sequence 8 (SEQ ID No. 6); or Generic Sequence 9 (SEQ ID No. 7).

29. **(Withdrawn)** A method for inducing new tissue formation at a nonskeletal defect locus in a mammal, comprising administering morphogenic protein systemically to said mammal.

30-75. **(Canceled)**

76. **(Withdrawn)** A method for inducing bone or cartilage formation at a defect locus in a mammal, comprising administering osteogenic protein systemically to said mammal.

77-122. **(Canceled)**